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SURGICAL LECTURES,

DELIVERED BY

MR. ABERNETHY.

Theatre, St. Bartholomew's Hospital.

LECTURE 17.

GENTLEMEN,

I said that I should consider, to-night, some of the causes which prevent the union of fractures.

Non-union of Fractures.

If a fracture take place in a bone, and if all other circumstances be favourable, yet if any motion be allowed from day to day between the ends of the fractured bones, they will not unite by an ossific medium. Rest is necessary for the restoration of the parts. Union of a fractured bone is accomplished in the same sort of way as a wound of the soft parts; lymph is effused; this becomes organised by vessels shooting into it from the broken surfaces, and then earthy or bony matter is deposited, and the part acquires the strength and density of the surrounding part.

It is evident then, that if the least degree of motion be allowed between the broken extremities of the bone, that an *ossific union* cannot take place. Finding that that degree of reparation cannot be made that she wishes, Nature sets about procuring a *flexible union*. The ends of the bones become smoothed over, the ragged particles are absorbed, and the motion allowed between the bones, perhaps, assists in this smoothing process. There is a sort of joint formed, and the union is effected by ligament, just as we see the fractures of the patella, and sometimes the olecranon become united.

Sometimes, however, bones will not unite, although you may keep the broken surfaces in perfect apposition, and preclude the least degree of motion. And I am satisfied, that the cause of this is a certain *state* of the *constitution* which renders the vascular system of the injured part incompetent to secrete the ossific matter. I can relate to you a notable instance of this:—A man came into this Hospital with a fracture of the os brachii, about its middle; he was a stout man, a labouring man, a muscular man, not that sort of person to whom you might impute any physical defect, or any deficiency of the vital energy. The fracture was secured in the usual way, and very well secured, as I was given to understand; the arm was kept in splints rather beyond the time usually considered necessary for such a fracture; but when the splints were taken off, there was a movement perceptible between the broken

extremities of the bone. The arm was done up again very carefully, and allowed to remain so a longer time than at first. But when examined the second time, the fracture was found not to have united. There was nothing particularly wrong in the man's health; his stomach, bowels, and so on, appeared just as they should be. Well, he remained in the house a long time, and every attention was paid him, but still the fracture would not unite, and he was obliged to leave. He went to his work again, but he found very great inconvenience from the loss of power which the limb had sustained, and, after a certain time, he came into the Hospital again, and said that he wished we would do something for him, that he was willing to have done whatever was considered necessary, and so on. It was really very curious to see this man attempt to lift any thing from the ground; he bent his elbow well enough, but there was another flexion in the middle of the upper arm, by which he lost considerable power.

Mr. LONG proposed cutting down upon the ends of the bone, and reducing it, as near as could be, to the state of a recent fracture; he made an incision on the outer edge of the deltoid muscle down upon the ends of the bone, and he turned them out through the wound. He chipped and rasped off all the smooth surfaces from each, and then returned them to their proper places. The arm was very properly secured, but the bones did not unite in any other way than they did before. It might have been supposed, that an operation of this kind would have been attended with very considerable constitutional irritation, fever, and high local inflammation, but there were no such results; it appeared only like a flea-bite to him, as they say; such was the torpor and non-excitability of his system.

A gentleman in America proposed, that in these cases where union did not take place, instead of cutting down upon the bone, and removing a portion of it, to pass a seton between the surfaces, and in this way to excite a sufficient degree of irritation in the parts that might lead to the deposit of adhesive, and afterwards ossific matter. It is a mode which I believe has been frequently practised, but seldom found to succeed. I have known several instances in which it has been tried, but the degree of disturbance in the part and in the constitution has been so great, that they were very glad to lay the practice aside.

It has been often requested by patients who have had fractures, whose cases have terminated thus unfortunately, to have the extremity removed. Formerly it was very much the practice with surgeons to do so, but I do not think it commendable. You may ask, What is to be done in such cases? To which I should answer, that I believe that, by keeping these fractures, in which flexible union has taken place, perfectly quiet for a longer time than is usually done, many such cases will unite. I have known many examples of this kind, but I will only tell you two. A sailor came into this Hospital, who had fractured his arm, by a fall from the mast

yard on the deck; it had been treated in the usual way, and been kept quiet for the usual time, but yet a flexible union had taken place. The man was so annoyed at having this joint in his arm, that he came here for the purpose of having it removed. I told him that if it were my case, I should not have my arm so treated, but advised him to have the limb kept perfectly still for some length of time, and that there was a probability of the part uniting by bone. I explained to him what the object was, and how it was to be accomplished, and you must in such cases explain to the patients the necessity of strictly preventing any motion between the fractured portions. The patient was kept on what is called a generous diet, his bowels regulated, and his digestive organs improved. Now this man had his attention rewarded by a firm union of the fractured arm; he was very attentive in keeping the splints sufficiently tight, and would not allow of the least motion.

The other case which I said I should mention, is that of a gentleman of fortune who broke his thigh in two places. It was a very bad fracture; it was secured in the usual way, as I understood from him, and kept the usual time in the splints; but it was found that neither fracture had united by bone. It was really distressing to see him attempt to walk, he tottered to one side, his thigh bending under him, as if he would fall to the ground. Consultations were held with some of the leading men of the profession, about the propriety of removing the limb, and they appeared to think that it was necessary. I dissented, however; I told him what I have before told you, that I should not be disposed to have the limb removed before I had tried what could be done by strictly preventing motion between the fractures for a longer time than is usually considered necessary. I said, if it were my own thigh, that I should be disposed to treat it in that way. The gentleman consented, the thigh was placed between splints, the limb was properly attended to, and bony union took place.* I am induced then to think, that if fractures will not unite by the method which I have mentioned, they will not unite either by sawing off their surfaces, or by exciting irritation in them by setons. I have told you what I know respecting the non-union of fractures, and of the probability which exists of causing even old fractures to unite, by observing perfect quietude between their surfaces for a considerable time. I shall now say something about

Compound Fractures.

There is merely this difference between a simple and a compound fracture; the one unites by adhesion, the other by granulation. In a simple fracture there is blood first effused between the ends of the bone, which becomes, in a great measure, absorbed; the coagulable lymph of the blood remains, and perhaps there is addition made to it; this becomes organized, and thus a vascular medium is esta-

* Mr. ABERNETHY omitted, in this and in the former case, to mention a very important point, the time which the fractures required to unite by bone.

blished between the broken surfaces. I said, when speaking of the union of the soft parts, that the newly organized structure gradually acquired the structure of the surrounding part, so it happens in the reparation of injuries of the bone, (for you will recollect that I am now speaking of such as are produced by mechanical violence); the uniting medium having been rendered vascular, gradually receives the deposit of ossific matter till the chasm between the two surfaces is completely filled up. Now what happens in simple fracture by the adhesive, takes place in compound fracture by the suppurative inflammation, or by granulation. When you consider that bone, in a healthy condition, is an insensible part, possessing a low degree of vitality, and therefore not being very readily excited to action; when, at the same time, you recollect that the filling up of chasm, even in the soft parts, by granulation is a very tedious process compared to the adhesive union; you need be at no loss to discover why a compound fracture should be a more important injury than one which is simple.

The mischief does not result from the exposure of the broken surfaces to the air, but to the removal of the blood which was poured out between the surfaces of the fracture. In a compound fracture, the layer of coagulated blood putrifies and passes away by the wound of the soft parts, consequently there is a chasm formed, and how can it be filled up but by granulation? Vessels cannot shoot from one surface to another when separated, but there must be some medium; you cannot glue parts not lying in contact. The hollow then is filled up by granulation, just as a hollow in the soft parts, with this difference, that bone is deposited in the granulations. Here again we may see another cause why an injury of bone should be much longer repairing than a proportionate injury of the soft parts. The vessels of a bone are extremely minute, they cannot therefore secrete so readily pus, or the adhesive matter that is to form the substance of the granulations. Again, we know that there is a greater degree of constitutional disturbance attending the suppurative than the adhesive inflammation, and that granulations which, for a time, looked healthy and vigorous, all of a sudden become changed in their character, and even absorbed; we notice these transitions in the states of ulcers, where the granulating process is immediately brought into view, and we cannot but suppose that the same causes will produce similar deviations from the healthy action in granulations between the extremities of bones.

The consideration of the different methods in which simple and compound fractures united, and of the dangers and difficulties frequently attendant on compound fractures, induced Mr. MUDGE, of Plymouth, to adopt that treatment which appeared to him to render the compound fracture, as nearly as possible, in the same circumstances as the simple, and he accordingly closed very carefully the external wound, he brought its edges together by sticking plaster, and then he varnished the plaster, so that the broken bones were covered almost as

effectually as by the integuments. He has recorded many cases in which his practice was successful. It is undoubtedly right to protect the fracture from the danger which would attend the suppurative process, you should therefore, after you have reduced the bones as neatly as you can, bring the edges of the wound together, and you may varnish the dressings, for if you can prevent the escape of the coagulated blood, the fracture may unite by the adhesive process. In addition to this, you should recollect that the soft parts in the immediate neighbourhood of the fracture are frequently very much injured, and the result of injury is an inflammatory process. Now you may very much lessen the subsequent inflammation, and prevent the suppurative inflammation by diminishing the temperature of the part. There is no measure so useful in the treatment of inflammation, as that of the regulation of temperature. Lay thin cloths, wetted with Goulard's lotion or spirit and water, over the part, to diminish any excessive heat that may accumulate there, and you will do a great deal toward preventing the evils frequently attendant on a compound fracture. Keep the parts at the same time on a splint, and perfectly quiet. It is a point of very great importance in the treatment of fractures, to place the limb, and to place the patient in that position from which there may be no necessity to remove him for a considerable time.

Compound Fracture, with Hæmorrhage.

It sometimes happens that there is considerable bleeding from a compound fracture; the sharp end of the bone has pierced a vessel, and hæmorrhage follows. It has been recommended immediately to enlarge the wound, if you cannot get at the vessel without, and by tenaculum to pull it forth and secure it. I cannot say that I should approve of such a practice; one wound is bad enough, you need not make two. And as to stuffing foreign bodies into a wound to stop hæmorrhage, oh! that is a very bad practice. I can only tell you that I have known large arteries, aye, even the principal arteries of a limb wounded, and yet the hæmorrhage was stopped by a different method. I remember two cases of compound fracture of the leg, in each of which I had every reason to believe, that the anterior tibial artery was wounded. There was a considerable flow of blood from the wound, the cellular membrane was distended with effused blood, even down to the foot. I directed the limb to be put in a proper position, so as to replace, as near as could be done, the ends of the bone, and directed cold rags to be applied to the part so as to allow of evaporation, the temperature of the part was lowered, and the hæmorrhage ceased. The other case was under the management of one of our dressers here, I think Mr. GEORGE, now settled at Bath; he very properly laid the limb on a splint, so that there might be no motion allowed in the fracture, and then he fitted another splint over the limb, in this manner: he removed a piece of the middle of the splint, so as to leave the part uncovered, but he connected the

two pieces together by a bracket of iron, so that the splint acted as effectually as if it had a continuous surface. On the part he applied his cold lotion, and the bleeding was effectually stopped. From these, and many other similar cases, I imagine that you may generally command the bleeding from arteries in compound fractures even of some importance, by the use of cold.

Oblique Compound Fractures, with considerable projection of Bone.

A fracture may not only be compound, but there may be considerable projection of bone through the external wound. In a very oblique fracture the bone may protrude very much through a small opening in the integuments. A person may, in jumping from a carriage, or from a height, fracture his leg, and fracture it so obliquely as even to push it through his boot. What are you to do in that case? The bone is protruding considerably through a small opening in the integuments, from the obliquity of the fracture. I remember a time when this used to be a frequent question put to those who presented themselves at Surgeons' Hall, by the leading men there, and especially by Mr. POTT, who was one of the first men of his time as a surgeon. What would you do, sir, in such a case—would you enlarge the wound or saw off the bone? I know that the answer expected was, "I would rather enlarge the wound than saw off the bone." Mr. POTT had a great objection, and this objection was general at that time, to the removal of any part of the bone, if it could possibly be avoided. If any spiculæ of bone should make the surface of the fracture appear ragged, then it is a different thing, they may be removed, because in attempting to return them you might irritate very much the neighbouring soft parts. They objected very much to the removal of any considerable portion of the fractured bone, and so do I object to it. Whatever portions of bone you may remove leave of necessity a chasm to be filled up, which must be greater or less in proportion to the size of the pieces of bone which you may remove. The only way in which it can be filled up is by granulation, and the demands made upon the constitution, under the suppurative process, are very great, producing that degree of irritability called hectic fever. I say, then, that I would rather enlarge the wound than saw off any considerable portion of the bone.

Comminuted Compound Fracture.

You may have a compound fracture, in which the bone is very much smashed, broken into a great many pieces, which might cause you some perplexity. It has been said, that you should take away the loose and detached portions, but I do not see what advantage can be derived from picking away the smaller pieces of bone. The only mode in which the fracture can unite is by the separate pieces of bone becoming vascular, and the probability appears to me, that they will become more so when the pieces are small than when they are very large. If there should be any projecting, detached pieces of bone, which appear very much to disturb the proper position of the fracture, you should take them away; but it is impossible to lay down any such precise rules in surgery that will direct one in all cases, unaided by the conviction of a man's own judgment.

You must, therefore, be very much guided by circumstances; if you could replace the different pieces of bone, and by giving the part a moderate degree of support, retain them there, I think you had better not take any away. It is of no use to strap and bandage a fracture to make it unite by main force—that will never do. The support you should give a fracture should be gentle and equable, just such as it would derive from the healthy state of the parts.

I remember being told the history of a case of compound fracture by Mr. POTT, which shows what nature alone will do in such injuries. Mr. POTT was a man on whose veracity I could rely, and when I told the story at the College of Surgeons, some of the old codgers there (a laugh) said they recollected the case; that was confirmation strong enough, if any had been required.

A lunatic, in attempting to get over a wall, fell, and produced a compound fracture of his right leg; the bone projected a little through the skin; the opening was enlarged, and the bone reduced. The fracture was secured, first by a many-tailed bandage, then by splints, the wound carefully closed by plasters, and the surgeons who had the management of the case went away consoling themselves with the nice apposition of the bones. The man paid particular attention to the manner in which they applied the apparatus, and as soon as they were gone, he took it into his head to remove the bandage and splints from the injured leg, and set them on the other. He discovered a hole in the feather-bed on which he was lying, and he thrust his fractured leg into the middle of it. (A laugh.) When the surgeons arrived on the following day, they were much pleased with the look of the limb; they said, how straight it lies! it appears not to have shifted in the least from the position in which we placed it; what little swelling there is! indeed there is scarcely any, and so on. They thought it would turn out a very excellent case. They came, from time to time, to see the patient, and finding every thing going on so favourably they did not disturb the limb. After the usual period had elapsed in which such a fracture is supposed to unite, they took off the splints to examine it. They were quite surprised to see how straight the leg was; and as to the wound in the integuments, it had closed so nicely, that they could not even find the scar. Well, this is very extraordinary! But, said a person present, is this the leg that was broken? Broken! yes, certainly. Could it be supposed that the splints were put on the wrong leg? (Another laugh.) However, it was thought they might as well look at the other, but it was not to be found. After some search it was discovered buried in the feathers, and when they pulled it out, egad! it was crooked enough, with a large bunch of feathers sticking into the leg, like a cockatoo (loud laughter); yet the wound had healed and the bone united.

Fractures may not only be compound and comminuted, but they may be produced in such a way as to cause extensive injury of the neighbouring soft parts; for instance, the wheel of a heavy carriage passing over the limb, or gun-shot wounds, may do so much violence as to render it probable that the parts will slough; under such circumstances, it has been a question of some consideration whether an operation for the removal of the part should be immediately performed or not. Mr. GUTHRIE, who has written on this subject, recommends immediate operation; but you must take this into account, that his conclusions are drawn from peculiar circumstances. Mr. GUTHRIE, as a military surgeon, has perhaps seen the necessity of amputating *sur le champ*, because the wounded can only be taken away in heavy, rough-going carriages, which would, to a certainty, injure the parts materially, and very much preclude that chance of success that might otherwise be gained by delay.

Other persons have advocated the same opinion; but I should rather defer operating, if possible, until the next day, if I could, or the next evening. The constitution has sustained a very serious shock by the injury, and the additional shock of the operation, before the first was recovered from, would, in many cases, extinguish life. I know that the practice of immediate operation would not succeed

among Londoners, for there are very few of them capable of sustaining such a two-fold injury. I should say, wait; tell the patient that you will leave it until the next day; let him recover a little, and prepare his mind for it. If you find, that the circumstances of the case are not more urgent on the second day, say you will put it off a little longer. It is astonishing to see what little impression a large wound, such as that formed in amputation, will make upon the system, when it has been for some time previously suffering from considerable irritation. Amputation of a limb from a man in full health is known, by experience, to be a very dangerous thing, and therefore I should recommend you to wait a little after the receipt of a violent injury before you perform it.

Rule for Amputation.

It does not follow, as a matter of necessity, that because a bone is comminuted and the soft parts contused, that you must operate. There are many such cases that do well. What then are the principles which ought to guide you in determining on the operation. It is quite impossible to lay down any precise rule, founded on this or that appearance of the parts; or to say, that because this artery is torn, or that part is injured, or that the bone is broken in this or that manner, that you must operate. But if there appears to you to be such mechanical injury done to the living structure as could not ultimately be repaired by nature's processes, or, that if reparable would, from the state of the person's general health, make such demands on the vital powers as they could badly support, then you might be justified in amputating. Rules! there is but one rule in surgery, or there ought only to be one rule—*Do unto others as you would have done to yourself.* If you can say, after asking yourself, if your limb were in the condition of that man's, you would have it removed, then I say, you can with great propriety recommend it.

Operations, generally speaking, do much better in the country than in town; and injuries requiring amputation in town will often be recovered from in the country. Of amputations, I have found that those of the thigh do better in London than those of the leg, especially about the calf of the leg; and those of the upper arm do better than the fore-arm. The question which we have been discussing is one of great importance, and deserves your most serious attention. I did intend to have said something more on the subject to-night, but the time will not allow me, and I must postpone it until another evening.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF PHYSIC,

BY DR. ARMSTRONG.

Theatre of Anatomy, Webb Street.

LECTURE 14.

In this Lecture I shall speak of

Inflammation of the Lungs, Pleura, and Pericardium.

I have already made many observations on the predisposing and exciting causes of inflammation, and I now merely enumerate some, by way of calling your attention to this subject, which is very important in a preventive view. The *tendency* to inflammation of the lungs, pleura, or pericardium, is sometimes hereditary, sometimes acquired. It is a very remarkable circumstance, in regard to inflammation of the pericardium, that it is very apt to occur in those families, the members of which are liable to rheumatic affections, and such individuals are also apt to have enlargements of the heart. If the lungs, pleura, or pericardium have been once inflamed, there is generally a liability left to the same disorder.

The most common *exciting* cause of inflammation of the lungs, pleura, and pericardium, is a low, or a variable temperature. The inflammations prevail most in cold dry weather, but sometimes in cold moist weather. An attack of inflammation in the lungs or

pleura may be excited by a current of cold air. If an individual chance to be chilled by exposure to rain, or the like; or if cold be applied partially, especially to the chest and feet, it often happens that the whole surface becomes cold, re-action takes place, and, if predisposed, inflammation of the lungs or pleura takes place. If any one be wet while he is walking, he should keep in motion, by way of maintaining the animal heat, and thus preventing a chill, and subsequent inflammation; but in such a state he should always change his clothes as soon as possible; where the surface has become cool, the sooner he uses a tepid salt bath the better; it is an excellent preventive of inflammation. Persons may contract inflammation of the pleura, lungs, or pericardium, by sleeping in damp sheets, so commonly used in some inns; and therefore it is a good rule, in travelling, always to sleep between blankets. Sometimes a sudden plunge into a cold bath produces inflammation of the lungs or pleura. The reason why these inflammations occur so frequently, when the surface is chilled, appears to be this: that there is a much freer anastomosis between the vessels on the external and internal parts of the chest than in any other parts of the body, so that when the external surface is chilled there is an accumulation of blood internally, and the pleura, lungs, or pericardium, become inflamed. It is therefore a great point, in those individuals who are predisposed to inflammation, to keep the chest well covered by proper clothing; next to this in efficacy, I should mention the daily use of a shower bath, or sponging the surface of the body with cold water, which seems particularly to prevent the occurrence of inflammation of the lungs.

When inflammation arises from cold, it arises indirectly, after the establishment of re-action; sometimes, however, the pain in the chest is complained of during the cold stage, from the congested condition of the lungs or their appendages. Sometimes these inflammations arise from impressions made on the mind. Two cases of this kind occurred in the hospital. Two women were recovering from a fever; they were frightened by a violent thunder storm, became chilled, and had inflammation of the lungs. I have known this affection also arise from cramming the stomach with indigestible food. An old nurse, in the hospital, one day crammed herself excessively with pickled pork; her whole surface became cold, and her lungs, after the re-action had been established, became inflamed; her lungs had suffered inflammation before, and were thereby predisposed. Sometimes it arises from a very high temperature increasing the heart's action, which afterwards operates on the lungs, pleura, and pericardium. Sometimes it arises directly from a local irritation, as a broken rib rubbing upon the pleura; therefore, when you are called to a patient complaining of tenderness, and especially if there be swelling on the side of the chest after a fall or accident, you should make a point of examining the ribs carefully, from the sternum to the spine. Occasionally inflammation of the lungs arises from a very remote irritation; I remember the case of an old gentleman, who received an injury on his shin, which was followed by inflammation there; it disturbed the nervous system generally and increased the heart's action, and, during the progress of the fever, the lungs became inflamed. It is in this way that operations frequently prove fatal, by subsequent inflammations arising in weak parts. Indeed, no man is qualified to practise surgery unless he understand accurately the pathology of the internal structures, and unless he know how to treat such affections when they arise. The separation of surgery from physic is a distinction which, although sanctioned by colleges, is condemned by common sense.

Symptoms of Inflammation of the Lungs and Pleura.

We have a number of cramp words to express these affections. Peripneumonia notha is an inflammation of the mucous membrane lining the bronchial passages. *Pneumonia* expresses inflammation of the substance of the lungs, and *peripneumonia*, without the adjective *notha*, expresses the same thing; they are in fact synonymous words. Pleuroperipneumonia

is a term frequently used to express inflammation of the pleura and lungs, while *pleuritis* expresses that of the pleura.

The symptoms indicating inflammation of the lungs and pleura are, in general, so distinctly marked, as to enable any one to say whether the lungs, or whether the pleura be inflamed. If you attend to the following symptoms you will be enabled to know when the *substance* of the *lungs* is acutely or subacutely inflamed, or, what is technically termed, *pneumonia*, or peripneumonia.

1. The breathing is more or less difficult. The number of respirations considerably exceed twenty in a minute, and the inspirations and expirations are made with more labour of the whole chest than natural.

2. There is a sense of confinement or stricture in the chest.

3. There is a deep dull pain in the lungs, generally in the middle, or at the lower part of the thorax, because the middle and lower parts of the lungs are most liable to common inflammation, and the upper part of the lungs seems more liable to tubercular affections. The patient generally lies on the affected side; but there are some exceptions to this: most frequently the patient requires his trunk to be elevated, and he lies on his back.

4. There is a cough, attended by a limited, harsh, grating noise; you must remember that, because it is a diagnostic sign. It is almost a metallic noise, and the reason why it attends inflammation of the substance of the lungs is this: the bronchial passages are drier than natural, and the sound is attached, as it were, to particular parts of the lung. The cough increases the pain, and also a deep inspiration. Coughing increases the pain on the same principle that a deep inspiration does. A cough is nothing more than a very deep inspiration, followed by a stronger expiration than natural.

5. There is a scanty, viscid, yellowish, or greenish expectoration. The sputa are got up with very great difficulty, and when the patient spits into a vessel, the patch expectorated is so tenaceous that it adheres closely to the sides of the vessel.

6. The pulse is struggling, or oppressed. You must be very much on your guard respecting the pulse in inflammation of the lungs, for I have known the pulse not more than 60 or 70 in a minute, and yet the patient laboured under an intense form of inflammation.

7. Respecting the heat of the skin, also, you should be very much on your guard, for in many cases it is but little above the natural standard, especially in lean habits.

8. The tongue is generally moist, and not much loaded with fur, except where the stomach is simultaneously disturbed.

A remission of the symptoms sometimes takes place. The pulse becomes softer, the heat of the skin falls, the breathing becomes more easy, the cough less troublesome; and you might imagine the patient to be getting well. But be very careful of the patient at this juncture, for it occasionally happens that it is succeeded by a more aggravated attack.

There is one exception to the state of the tongue, which I have mentioned in the inflammation of the substance of the lung, it is in the typhoid pneumonia, or the *pneumonia typhoides*. But, in truth, it is an inflammation of the lungs, combined with a special one of the bronchial lining, which is then covered with a sticky varnish. Whenever you observe the tongue glazed, dry, and brown, at the same time, be very cautious about using evacuations, even when the substance of the lung is inflamed. If you carry evacuation far in such complex cases, the patients will generally die. Inflammation of the lungs may be either acute or subacute; when acute, there is more respiratory and general disturbance, it runs a more rapid course, and sometimes terminating in a week, while the sub-acute often extends to 14 or 21 days.

Symptoms of Inflammation of the Pleura.

1. There is a pain, or stitch, in the side, which interrupts, every now and then, the breath.

2. The breathing is difficult, but not so heavy and oppressed, in the first instance, as in inflammation of the lungs.

3. There is a catch, or cough; more often the latter. The cough is at first hard and dry, and when expectoration does take place, it is only a thin mucus

mixed with some froth. The expectoration is entirely different from that which is found in inflammation of the lungs.

4. The pulse is quicker and harder than it is in inflammation of the substance of the lungs. It is a pulse which feels like a piece of whipcord under the fingers, and is a characteristic generally of inflammation of the serous membranes.

5. The heat of the skin is higher than in inflammation of the lungs, especially on the integuments covering the chest; over which there is often some tenderness, on pressure, at the same time. The tongue is generally more furred than when the lung is inflamed, because the fever is more decidedly developed. The urine is more scanty and more turbid than in inflammation of the lungs, and this is generally the case when the serous membranes are inflamed. There is an exception to this in the mucous membrane of the large intestines, for when it is inflamed the urine is scanty and turbid. I have occasionally evaporated the urine attendant on inflammation of the serous membranes, and mostly found it to contain a larger portion of *urea* than natural. It appears that there is often a larger quantity of urea circulating in the blood than can be carried off by the kidnies. I am inclined to think that some cases of extreme irritation of the human body are kept up by a morbid condition of the fluids, and that the superabundance of urea is one of these causes.

Inflammation of the pleura sometimes spreads to the substance of the lungs. It, by far, more frequently happens than that of inflammation of the lungs spreading to the pleura. Inflammation of the substance of the lung sometimes takes place in bronchitis, and then, of course, there is a combination of symptoms.

You may know inflammation of the substance of the lung, and that of the pleura, is advancing, by the following symptoms:—

1. The dyspnœa continues and increases; the auxiliary muscles of respiration act more and more; and the motions of the muscles of the neck and alæ nasi being more and more augmented. 2. There is increased action of the diaphragm and abdominal muscles. 3. There is less air taken in and given out, as the inflammation advances. 4. The number of respirations become greater and greater—they are perhaps 30, and increase to 60 before death. 5. The cough becomes weaker and weaker; the patient coughs at first with great strength, and as the disorder goes on his cough grows more feeble. 6. The expectoration lessens, while the rattling noise increases. This rattling noise appears to come nearer and nearer to the ear when you put it to the patient's mouth; and it arises from an effusion of mucus or serum into the bronchial passages, reaching at last almost up to the trachea. 7. The pulse gets quicker and weaker. 8. The heat of the skin becomes lower, whilst the skin itself becomes damp and relaxed 9. The lips and cheeks grow more and more livid. 10. The countenance becomes more and more anxious; and, 11. An universal collapse takes place, in which the patient expires.

Morbid appearances of inflammation of the substance of the lungs.

The best account which I have seen of the morbid appearances of the viscera of the thorax, that which most nearly corresponds to my own observation, you will find in Laennec's work on the diseases of the heart and lungs.*—A work, which unquestionably, in a pathological point of view, is one of the most valuable which has appeared in modern times. There are three different stages of inflammation of the substance of the lungs. It may

* The title of Laennec's book is *De l'Auscultation Médiate, ou Traité du diagnostic des Maladies des pneumons et du cœur, fondé principalement sur ri nouveau moyen d'exploration. Par R. T. H. Laennec.* This celebrated work was translated about three years since into English by Dr. Forbes; who has, within the last few months, published several interesting cases illustrative of the use of the *stethoscope* and *percussion*, in the diagnosis of the diseases of the chest, &c. A comprehensive Review of which work we published in Nos. 4 and 5 of our last volume.—Ed. L.

terminate, first, in an effusion of serum; secondly, in an effusion of adhesive matter; or, thirdly, in an effusion of pus; and frequently you may discover a combination of these three stages in different parts of the lung. When it terminates fatally in the first stage, you find that portion of the lung, which is inflamed, excessively gorged with blood, both venous and arterial; so that, on slicing it across, a bloody serum follows the knife very copiously. If you examine minutely a portion of the divided lung, you will find that it still retains, to a considerable extent, its natural spongy structure. Sometimes, inflammation of the lung advances to the second stage, and that state of the lung is produced which has been called *hepatization*. The substance of the lung is so condensed by the inflammation,—by the effusion of adhesive matter, that it resembles a piece of liver in its structure. If you cut it, you find that scarcely any fluid oozes from it; but you can scrape a little fluid from it with the edge of the knife; and if you examine the cut surface with a microscope, you will see that it has a granulated appearance. But when a patient dies in the third stage of inflammation of the lung, the cellular membrane of the inflamed part is filled with pus; there is, to use the strong expression of LAENNEC, an *infiltration* of pus, the true common suppuration of the lungs. In the first stage, the effusion is simple,—it is a bloody serum which is effused; in the second stage, coagulable lymph is effused; and in the third stage, there is an effusion of pus into the cellular connecting medium of the lung. CULLEN has set it down in his book that inflammation of the liver terminates in a circumscribed abscess; but this is rarely the case. LAENNEC has examined many hundred cases, but he found very few abscesses; and I have seen many cases of inflammation of the lung, which had terminated fatally; but, though I found the proportion of common circumscribed abscess greater than LAENNEC, yet I am convinced, that it is not a common occurrence, as is imagined by those who follow speculative authorities instead of nature. The mistake has arisen from careless observers having confounded tubercular vomica with common abscess of the lung.

Morbid appearances of inflammation of the Pleura.

On examining the pleura after death, you find red lines running in various directions, or red patches scattered over the surface of the pleura, like blushes of inflammation, if I may use the expression. It has been said by anatomists of this country that the pleura is thickened by inflammation, but I believe that LAENNEC is correct on this point, when he says that what appears to be a thickening of the pleura is only an effusion of coagulable lymph upon its surface. There is, in intense forms of inflammation of the pleura, an effusion of coagulable lymph, both on the surface of the pleura costalis and of the pleura pulmonalis. This occurs in strong subjects, but in weak subjects there is a copious effusion of serum, and less and looser coagulable lymph. The matter effused resembles the curds of milk, floating in whey. The whole effusion has a purulent appearance; an appearance however most frequently borrowed from the lymph effused into the serum. This appearance has given rise to a supposition, very common even in the present day, that it was a collection of genuine pus bursting from the lungs into the bags of the pleura, and it was called *empyema*, which however is nothing, generally speaking, but the effusion of the serum coloured by flakes of coagulable lymph. My object is by every possible effort to reach the truth; and if error lie in my way, I must touch it—tear it—trample it under my foot.

Serum is often effused between the two surfaces of the pleura pulmonalis and pleura costalis, and being absorbed, the effused lymph becomes organized, and gradually glues the two parts together. If these adhesions be recent, you can easily separate them with the fingers; but if they be old, the result of previous inflammation, you cannot separate them without very considerable force. Sometimes there is considerable effusion into one bag of the pleura, so that, even before death, you can distinguish that side of the chest to be very much enlarged; and you find, on examination, the lung com-

pressed as it were into a corner, more resembling muscle than lung in its structure. Occasionally there is a contraction of one side of the chest, where the function of the lung has been destroyed by inflammation, and where a sort of fibro-cartilaginous effusion has so covered and pressed the lung as to prevent it from rebounding and filling the chest again on that side, as explained by LAENNEC.

Diagnosis of Bronchitis, Pneumonia, and Pleuritis.

You might by a superficial consideration of these affections confound them with each other, but by minute attention, you will be able to distinguish them from each other.

1. With respect to the *pain*.—In pure *bronchitis*, there is no pain, the patient can make a full inspiration and expiration without pain; but in *pneumonia* there is almost always a dull pain in the chest. In *pleuritis*, there is a distinct pain, attended every now and then by a *catch* in the breathing.

2. The *cough* is different in bronchitis, pneumonia, and pleuritis.—In *bronchitis*, the cough is a loose, deep, diffused, stuffing noise. In *pneumonia*, it is harsh, shrill, metallic, and grating. In *pleurisy* it is a hard, dry cough; the noise resembling neither of the two former.

3. The *expectoration* is different in each.—In *bronchitis*, it is copious and loose, spit up in large patches, which afterwards run together. In *pneumonia*, the expectoration is in small patches, got up with great difficulty, very tenacious, and of a yellowish or greenish hue. In pleuritis, the cough is at first dry, and when expectoration does commence, it is a glairy mucus, mixed with a little froth.

4. The *colour* of the *lips and cheeks*.—In *bronchitis* the cheeks and lips are more affected at the onset. They are purple, violet, or leaden in colour, modified by the natural complexion in the way which I before explained.

5. The *pulse* is more compressible in bronchitis than it is in pneumonia, and more so in pneumonia than in pleuritis.

6. The *heat* of the skin is generally higher in *pleuritis* than in the two former affections.

7. The *breathing* is also different.—In bronchitis, the patient breathes with difficulty; but now and then he is relieved by a copious expectoration of mucus; in pneumonia, the breathing is more confined and heavy than in pleuritis; and in pleuritis it is interrupted frequently by a sudden cough or catch in the side.

There is another affection which you might confound with these, and therefore I shall speak of it here, it is *pericarditis*, the term is used indiscriminately with *carditis*, but the latter is a rare affection, whereas pericarditis is by no means uncommon. It more frequently arises in the progress of the rheumatism than in any other way, especially if persons affected by rheumatism be suddenly chilled.

Diagnostics of Pericarditis.

What are the diagnostic symptoms of inflammation of the pericardium, or bag of the heart?

1. the seat of the pain:—the pain is directly in the region of the heart, increased on inspiration, by turning towards the left side, and stretching the trunk upwards and backwards.

2. The breathing is anxious and irregular rather than difficult.

3. The cough is slight in proportion to the anxiety and irregularity of the breathing.

4. Attend to the state of the pulse. All writers have agreed in saying that the pulse is irregular in pericarditis; but, if I may trust to my own observation, I should say that the pulse is almost always regular when the patient is perfectly quiet, only becoming irregular when he moves.

5. The pulse is generally small, yet if you put your hand on the region of the heart, you find that its contractions are excessively strong. There is an inequality between the strength of the heart's action and the pulse; which induced LAENNEC, perhaps erroneously, to suppose that the arteries had the power of carrying on the circulation somewhat independent of the heart.

6. A *tendency* to syncope on motion, not actual syncope under all circumstances, as CULLEN has stated, and as some "learned Thebans" still believe.

7. A very solicitous and anxious expression of countenance.

Morbid appearances in Pericarditis.

The heart is often coated, like a tripe, with a layer of adhesive matter. At other times there is an effusion of serum, with a less quantity of lymph. CORVISART relates cases in which both the pleura and pericardium were simultaneously inflamed; but the one may be considered a serous, and the other a fibrous membrane; and I have not found them frequently both inflamed in the same case. The thin transparent fluid, which is so often found in the pericardium, cannot be considered a morbid appearance, as it generally occurs during the agonies of death; and it may be readily distinguished from that which is the result of inflammation by its being a pure serum, and not containing any coagulable lymph. But to return to the Diagnosis.

Percussion.

One of the methods which may be advantageously used to assist us in forming a correct diagnosis of the different diseases of the chest, is percussion. This can only be of use when you have acquired an accurate knowledge of the natural sound of various parts of the chest. The chest, or at least several parts of it, in a healthy condition, will, when struck by the ends of the fingers, emit distinct sounds, almost like those which are produced by striking an empty cask. Whereas, when disease has taken place, the sound elicited by percussion is comparatively dull, as if a full cask had been struck. Great assistance may be derived from percussion, particularly when combined with the employment of LAENNEC's instrument, which I have found of the greatest assistance in the diagnosis of affections of the lungs and heart.

The application of the Stethoscope.

You know that an old Roman wished that a glass might be placed on his breast, in order that others might see what was passing within. What the old Roman wished to be done morally LAENNEC has accomplished physically. By his persevering industry, he has discovered a scientific mode of exploring the affections of the chest through a simple instrument, which may be considered as one of the greatest boons presented to the medical world in modern times.

LAENNEC's instrument can only be successfully applied to the diagnosis by him who will take the trouble to educate the ear, to ascertain not only the healthy sounds of the heart and lungs, but also the morbid ones, that the difference may be accurately detected. Nay, this is not all, he must connect those morbid sounds with the appearances displayed by dissections, that he may know the pathological conditions on which they depend. In bronchitis a mucous gaggle is heard through the stethoscope; in pneumonia a crepitous or more shrilly sound, in the first stage; while in pleuritis, the respiratory murmur is either suddenly lost, over a large space, or there is that bleating kind of noise called bægophonism. But for a more minute detail, I must refer you to LAENNEC's original work, or to Dr. FORBES's abridged, but very able, translation.

REVIEW.

A full account of the system of Friction, as adopted and pursued with the greatest success, in cases of contracted joints, lameness, &c. &c. By WILLIAM CLEOBUREY, M. R. C. S. &c. 8vo. pp. 170. Oxford, 1825. Third Edition.

IT must be obvious to every reflecting mind, that all remedies or plans of treatment will possess an ephemeral or permanent situation in the practice of professional men, in strict proportion to their utility, and to the candour and honesty with which their inventors or advocates have estimated their properties and uses. For if the efficacy of a new remedy or a novel method of procedure be over-rated, the

public will be disappointed, and will be sure to deny to it the possession of the small proportion of usefulness to which it may be fairly entitled. Hence it is that the most potent agencies of yesterday lose all their "power to charm" or exorcise the maladies of to-day; and hence the reason that oblivion follows with exterminating power the hydra-headed novelties which the heated imaginations of men so luxuriantly generate — many of which "are such stuff as dreams are made of," or like idle meteors which flit through our atmosphere and dazzle for a moment, and are seen no more.

Something of this fate has attended the subject of the following pages—friction—which at one period, by the exertions of the late Mr. GROSVENOR of Oxford, was held in great repute, but being over-rated, has latterly, we believe, fallen into discredit. There can be no doubt, however, that in many cases of indurated and stiffened joints, the practice of manual friction or rubbing has been of great efficacy in removing these affections. Sir A. COOPER, in his lectures,* pays a high tribute of respect to the labours of Mr. Grosvenor, and the object of the present author is to put the public in possession of the methods to be used, and the restrictions to be observed in applying his remedy. Speaking of Mr. Grosvenor,† our author says,

"I shall first briefly state (as it may not be generally understood) the particular mode in which friction was applied by him.

For this purpose females were engaged, who supported themselves by this occupation.

The female rubber, seated on a low stool, and taking the patient's limb in her lap, (which position gave her command over it,) so as to enable her to rub with both hands—proceeded to rub with extended hands, so that the friction should be performed principally with the palm of the hand; taking long strokes, one hand ascending as the other descended; keeping both hands in motion the whole time; and occasionally applying a small quantity of fine hair powder to the palms of her hands, to prevent the moisture from producing an erasion of the skin. After the friction had been continued in this manner for half an hour, the limb, if contracted, was taken by the female rubber at the ancle, and, in the slightest possible degree, an attempt was made to extend it.

The friction was at first continued for one hour daily, (more or less, as the case would admit) and gradually increased till the patient could bear it to be rubbed an hour at a time three hours in the day, observing always to rub by the watch.

After every period of rubbing was concluded, however unpleasant and distressing it was to his patients, he invariably obliged them to put the limb to the ground, and make efforts to walk; and he has been known to urge his patients to walk, though in the attempts they have been ready to faint with the exertion.

From these attempts, repeated after every rubbing, the genial warmth produced by the friction has enabled the patients to do something more towards walking daily; and innumerable instances have been known of persons *perfectly lame*, and using *crutches*, throwing them aside in a fortnight or three weeks, where the friction was suited to the *disorder*. Though I would observe on the other hand, that cases of lameness which left but *little hope* for the sufferers, have been removed, by *continual use* of this method for a *year* or *two*, contrary to all expectation."

* Vide Lancet, Vol. I. p. 120.

† This gentleman had long retired from the labours of his profession, of which he was a liberal practitioner and a brilliant ornament, p. 15. He died in 1823. A lithographic print of Mr. G. is prefixed to the volume.

Where there is any degree of acute inflammation, the practice however cannot fail of being injurious, and ought not to be attempted. There are other cases also, in which the present author does not think it applicable. But he shall speak for himself.

"I will now proceed to state those cases to which, in my judgment, it is not applicable.

First—In all cases of inflammation it is highly improper, as it will not fail to accelerate suppuration.

Secondly — In scrofulous cases tending to suppuration; as the correction of the system, combined with good living and sea bathing, can, in my opinion, alone benefit the patient.

Thirdly—In cases of inflammatory gout and rheumatism it will do mischief.

Fourthly—In cases of anchylosis, (that is, an union by bone of the articulating extremities of joints, common after white swelling, or other diseases of joints,) it can be of no service.

The cases in which it is most serviceable are:

First—Contractions of the joints unattended with inflammatory symptoms, proceeding from colds, damp beds, or rheumatism, attended with languid circulation and thickening of the ligaments.

Secondly—In those cases where there is too great a secretion of the synovial fluid in the joints, particularly in the knee joint.

Thirdly—After wounds in ligamentous, tendinous, or muscular parts, where the function of the limb or part is impaired; but even here it should not be made use of till the inflammation and tenderness have entirely subsided. For example, officers or men who have received wounds in different campaigns, which wounds are situated in the muscular parts of the back, thigh, calf of the leg, and knee joint, elbow, or other joints, provided all foreign substances have been extracted.

Fourthly—In cases of paralysis.

Fifthly—Those of chorea, combined with attention to the system.

Sixthly—Violent strains of the joints, where the inflammatory symptoms have entirely subsided.

Seventhly—In incipient cases of white swelling, for which disease it is well known that bleeding, cupping, and blistering generally fail; and that setons and issues bring the limbs more rapidly to the knife*—this is almost the only remedy that has been found effectual, and it has frequently happened that joints absolutely condemned to the knife, and on the point of being amputated, have been saved and their use restored by this method.

For my own part I should hesitate to remove any limb, where it was possible friction might be of service, till it had been fairly applied.

Lastly—After fractures of the articulating extremities of joints; as when the bones are united a stiffness generally succeeds.

In all the various cases of dislocation of the joints, when the motion of the joint is left impaired, if the inflammation has entirely subsided.

In most cases of fracture of either of the extremities, when a stiffness succeeds their complete union.

After ruptures in tendinous or ligamentous parts, provided they are firmly united.

In weakly or rickety children, where the circulation is languid.

Indeed friction will be found beneficial in most cases where the circulation is languid, if unattended by inflammation."

Our author has cited two or three cases of contractions following disease of the knee and hip joint, one of which we shall insert.

"Martha Mayland, 16 years of age, or thereabouts, had been for a considerable time under the care of several surgeons, for what was supposed to be a disease of the hip joint. Blisters, &c. had been applied; and when

* This observation I mean to apply to those cases only in which the joint is penetrated by them. When the issue occasions the mere opening of an abscess, without interfering with the joint, it is serviceable.

I first saw her she had an immense issue in the neighbourhood of the hip joint. This I directed to be immediately healed, and it was my intention, as soon as this was done, to proceed in the manner described in the former cases; but here I was anticipated in my practice by a noted bone-setter, I believe Mr Thurland, of Charlton,* who laid hold of the limb, and extended it in a similar manner. The result was the same; the girl recovered the use of her limb.

I have met with so many of these cases, and they are so very similar, that were more adduced, they would not throw any *additional* light on the subject. But before I conclude these observations, I must remark, that it is *in this manner* that the Whitworth doctors, and other noted bone-setters, have acquired their great celebrity."

Mr. Cleoburey has, in the next place, taken a short view of the methods used to distinguish between contractions and dislocations; but these we need not enumerate, as they will be found more at large in other works.

* This gentleman generally intoxicated his patients previous to the operation; and his method of effecting the separation of adhesions situated round the head of the femur, was as follows:—He placed the patient on a bed, with her face downwards, and made the pelvis a fixed point, by kneeling with one knee on the sacrum. He then passed his right arm under the femur, and making a lever of it, forcibly extended it backwards towards the ear till the adhesions gave way. In this manner he succeeded in nine cases out of fourteen which had baffled the regular practitioners. The other five he had too much prudence to attempt, as the joints were either under the immediate influence or effect of inflammation; or portions of bone had exfoliated from them, indicating that anchylosis had taken place.

Mr. Thurland is now dead, and was the last of a family who had practised this art for nearly a century.

The diagnosis of the empirical "bone setters," of whom we know nothing personally, is thus described:

"Acute observation of the numerous cases presented to these noted bone-setters, enables them to discriminate, the instant almost they see their patients, between the curable and incurable cases. Experience teaches them what we are taught by our anatomical knowledge. They cautiously avoid practising their art on unreduced dislocations of long standing, knowing that they must fail; whilst they almost as certainly succeed in cases of contractions and adhesions only; and this brings me again to notice the system of friction and extension as adopted by the late Mr. Grosvenor. His practice was precisely the same in effect. It was but a different mode of arriving at the same end. He pursued the cautious method, effecting, in a gradual manner, by friction, exercise, and extension, the separation or elongation of these adhesions, and also the absorption of the effused fluids. His system did not endanger the limbs or lives of his patients.

Theirs is a practice of greater hardihood; and woe betide those patients who fall into their hands, whose joints are under the influence of inflammation. Their violent and long-continued efforts will but aggravate the inflammation, so that suppuration, and in many instances death, will be the consequence."

Our author has laid down very precise rules to be observed in the employment of friction, with reference to the different joints, indurated or stiffened. The general principles, however, to be observed are as follow:—Having ascertained the nature of the contraction and the situation of the parts affected, the friction must be employed as near as possible to it, and the limb must be extended in the direction most likely to elongate the

contractions, or separate the adhesions occasioning the loss of motion. Take, for example, the knee joint.

"If the knee joint cannot be straightened, it must be obvious that the confinement or adhesions are situated behind, that is, at the back of the joint; and that these prevent its extension. Friction is to be made use of in the manner previously described, and during the process the surgeon is to take the limb at the ancle, and, whilst the thigh is kept down by an assistant, he is forcibly, but gradually, to attempt its extension; and this must be repeated daily several times during the process. The instant the rubbing is discontinued, while the limb is warm, and the muscles are relaxed, the surgeon must insist on his patient's attempting to walk, without the aid of crutches; and he must not permit him to desist, even if the perspiration bedews his forehead from the exertion. This, and nothing short of this, will be acting up to Mr. Grosvenor's system.

The intervals of the day are to be occupied by the patient's placing himself on a table, swinging the limb backwards and forwards—and at every extension of the limb attempting to bring it more forward. Or the same advantage may be reaped by placing a roller of wood covered with baize under the foot whilst seated in a chair, and rolling it backwards and forwards. In this kind of contraction the friction should be applied principally in the course of the tendons in the ham.

When this system of friction, extension, and exercise, has been regularly and unremittingly persevered in for *a month or two*, it will generally happen that the motion of the joint will be *considerably improved*, and all now required to effect the cure will be *diligent perseverance*.

Where there is a degree of tightness over the patella, or front of the joint, and the flexion of it is prevented or impeded, it must be evident that the confinement or adhesions are situated in front; and in this case the surgeon or rubber must take the limb at the ancle, *and cautiously, but forcibly*, bend it. The same means must be adopted as in the preceding affection of the joint; but here the friction should be applied more over the front of the joint."

To conclude, for we shall be justly liable to a charge of piracy should we make any further extracts from our author's book, which in reality contains many ingenious and valuable observations, and we can safely recommend it to the notice of our readers. At the same time, we cannot but state, that Mr. Cleoburey's opinions, on the subject of scrofula, are not much to our liking; nor do we think that the slight glance at anatomy, and the view of the bursæ of the joints which the volume affords, have added much to its value to the professional reader. The work, however, has its merits, and Messrs. Munday and Slatter, of Oxford, have, by the excellence of their type and the fine quality of their paper, contrived to exhibit them in truly splendid and imposing habiliments.

JOE BURNS.

Want of space prevents us this week from going at length into the affair of this illustrious individual, or saying any thing upon the strange conduct of his colleagues on Tuesday last in the Board Room of the Hospital. In our next Number, however, we will give the whole affair a patient investigation; in the mean time we say—*Cavete!!*

REVIEWS FROM THE WEST.

A comparative View of Fever and Inflammatory Complaints, with Essays, illustrative of the seat, nature, and origin of Fever. By T. Mills, M.D. Cumming, Dublin.

This thin volume is by far the boldest specimen of medical speculation that has come under our observation for a long time; and if the craniologists could not detect, in the head of its elegant author, some organic cause to account for so extravagant a flight of ratiocination, we confess our faith in the science of cranioscopy would suffer a sad diminution. Hitherto, nosologists have been endeavouring to discriminate between diseases — to characterise them by some peculiarity of symptoms—to keep the minute shades, by which they are distinguished, from mingling into confusion. But to what purpose has all this labour been expended? apparently in vain; for in a small publication before us, the diagnostics of a century, by one magic effort of the pen, have been levelled in the dust. Shades of Cullen, Sauvage, and thou, substantial Good, the *summum bonum* of our age, "hide your diminished heads," for lo! there is arisen one, who has just discovered that all your fine-drawn distinctions have been purely imaginary—things without a meaning—nay, without a place in the Book of Nature; and that most of the ills "which flesh is heir to" are nothing more or less than that Protean monster Typhus Fever, disguised under various forms, and assuming a different type according to the organ in which it may happen to be situated. What would the redoubtable John Browne, of *Alcoholic* and *Asthenic* memory, say to this, were he to revisit the regions of light once more? Why, he would, no doubt, pledge his friend, Doctor Mills, in a cup of his own darling cordial, and return him his warmest thanks for placing the tipling theorist on a level, in matters of imagination, with his illustrious competitor and contemporary Darwin. But the recollection of these poetic spirits apart, the universal remedy being thus made known, who knows but the universal *panacea* may follow? The moon may not "thrice fill her horns," or send her monthly quota of maniacs to our own Swifts, ere she lights us to the counterpart of this grand discovery. For since it is now duly ascertained, that no less than a round dozen of diseases are featured by the same symptoms—produce the same mortal effects, and present post-obit appearances essentially the same, surely it is not stretching the cords of induction beyond their natural elasticity to suppose, that, if a specific be found for one of these complaints, the remainder will of course be deprived of their destroying powers, and we shall all descend the "primrose path" of health to our last homes, chanting in strains of gratitude to Dr. Mills,—

"Oh! death, where is thy sting?
Oh! grave, where is thy victory?"

Lest, however, we should be suspected of misunderstanding, or, what would be still worse, of misrepresenting Dr. Mills, we shall take the liberty of placing him at the tribunal of pub-

lic opinion, to plead our cause in this case, with his own Table of Contents in his hands for a brief:

" A Comparison between Phrenitis and Cephalic or Typhus Fever.
" Ditto Erysipelas and Typhus Fever.
" Ditto Ophthalmia and Typhus.
" Ditto Pneumonia and Typhus.
" Ditto Enteritis and Typhus.
" Ditto Puerperal Fever & Typhus
" Ditto Hepatitis and Typhus.
" Ditto Small Pox and Typhus.
" Ditto Tuberculated state of the Liver and certain forms of Intermittent Fever," &c. &c.

Let any man, having just read these contents, ask himself—are all these diseases the same? We will venture to assert, that if it were possible to collect the voice of the whole medical world upon this question, it would respond in one loud and indignant NO! As an illustration of this mystery, we will subjoin an entire " comparison," in the author's own words, and our readers will immediately perceive that he has not instituted these " Comparisons" with an intention to point out differences between the diseases he treats of, but to prove irrefragably, as he thinks, their identity with typhus fever, and consequently to strike a death-blow at systematic nosology. We do not step forward as the advocates of any system or theory at present in fashion; all we wish is, that they should be fairly dealt with.

COMPARISON, &c.

" Between phrenitis and typhus, there exists not merely a general resemblance, but so striking a likeness in their particular features, that it is easier to show the points in which they agree than those in which they differ; for where shall we find two complaints, supposed different, so much alike? In phrenitis there is head-ache, flushing of the face, throbbing of the temples, suffusion of the eyes, delirium, prostration of strength, heat of the skin, frequency of the pulse, thirst, nausea or vomiting, loss of appetite, foulness of the tongue, and a vitiated state of the excretions; and when the disease is about to terminate unfavourably there is stupor, coma, hiccup, subsultus tendinum, difficult deglutition, and paralysis of the sphincters. Now is there a single symptom enumerated here that is not found in typhus?"

Enough! enough! *ex uno disce omnes*. We did intend to have continued the " Comparison" to the last syllable of it, but a *pars pro toto* quotation will be quite sufficient in this instance. Not only, he says, are the symptoms in these two diseases the same, but the morbid appearances, treatment, and causes are precisely alike in both. From each of the " Comparisons" which he has drawn, the same conclusions are to be deduced, namely, that the diseases which he treats are all typhus, modified according to the structure, or organ, in which it is present. If we are in possession of the true meaning of Dr. Mills' book, he seems to have three distinct objects in view: first, the identity of every species of fever; second, the inflammatory nature of fever; and third, its non-contagiousness. By identity of fever, he means that all fevers of course are the same, of whatever character; that intermittent fever and typhus, for instance, are the same. By the inflammatory nature of typhus, we are to understand him as saying, that the fever which goes by this name is a secondary affection, depending upon the inflammation of some vital organ, such as the brain,

lungs, liver, &c. Typhus fever, according to this doctrine, must, in some measure, resemble that state of the system called symptomatic fever, the consequence of a fever phlegmon; this is the best illustration which analogy supplies us with at present. Contagion and infection, which Dr. Mills considers synonymous, are words destitute of meaning, according to him, as applied to typhus fever; for he distinctly says, that this disease does not possess the power, *per se*, of propagating itself to other bodies.

Having thus stated, we trust correctly, the main propositions of this work, we shall just mention the grounds upon which Mr. M.'s opinions rest. The identity of fevers, he considers demonstrable from a combination of symptoms common to them all—from the principles of the treatment being the same in each, and from the morbid appearances which dissection discloses after death. For the inflammatory nature of typhus, he refers us to the disorganization of the structure, or viscera, in which it resided; and for the non-contagiousness of this fever, he favours us with no less than fifteen reasons. Two or three of the best of these will answer our purpose:—

"In the room adjoining a fever-patient, fever will not appear—if the room be well ventilated. The porters who assist the fever-patients in and out of the fever-carts, do not, in consequence, suffer from fever. If fever were infectious, it would be conveyed from house to house by physicians and clergymen, previously in attendance on the sick: this, however, is contradicted by experience."

Upon each of these interesting topics we shall make a remark or two in the order of their occurrence.

Now it strikes us, at the very first view of the question, that the hypothesis of an identity of fever, as founded on Dr. Mills' *criteria*, is as bloated a *petitio principii* as ever wretched critic had to burst. How, for instance, will a similarity of symptoms, of treatment, and of morbid appearances, substantiate this shallowest of all assertions. Let us take a case of typhus, and a case of injury of the head; the difference between the symptoms will not be discernable to the keenest observer ignorant of the history of the cases—the treatment will be often the same. Try the test still further, and suppose both patients to die—dissection will present precisely the same appearances in the brain; but will any man, in his senses, declare that here too, in the case of an injury of the head, was that disease we understand by the term typhus Certain substances taken into the stomach will excite inflammation o that organ, or what is termed gastritis; but who will presume to assert, that because the symptoms, treatment, morbid results, &c. may resemble those in affections of this organ in typhus, that this fever was present, and produced in this instance by the exhibition of the poison? So far for the correctness of the position laid down by Dr. Mills, that a similarity of symptoms proves the identity of various diseases with typhus fever.

Let us now see how far the treatment will verify this rule. From the beneficial effects of "purgatives and sedatives" in the complaints which Dr. Mills confounds with typhus fever, he would infer, that the diseases

themselves must be in their nature the same. We are not a little surprised that such a line of argument would be adopted by a man of so much cleverness and penetration as Dr. Mills certainly is; for must not he be, as every medical man is, aware, that many diseases, neither typhoid or inflammatory, are benefited by the adoption of this practice? What, for instance, is the treatment recommended in chorea, a complaint which all admit to be a nervous affection?—purgatives. What are the remedies most successful in various affections of an anomalous character, which often remain stationary for several years, and at length yield to medicine?—purgatives. Why, it is a fact, that in four-fifths of the diseases incident to humanity, we are directed, by the best authorities, to prescribe purgative medicines, with a view to the cure of these complaints. And is Dr. Mills prepared to say, that in the event of these complaints being cured by this practice, that they are all necessarily the same? Well, the next question is, the identity of every species of fever. With respect to this matter, as we are as yet totally ignorant of the nature of fever, we will speak hesitatingly. The limits of such a paper as this do not permit us to enter upon this subject as freely as we could wish; but we must say that there are many, and, as we conceive, incontrovertible arguments, to disprove the doctrine laid down by Dr. Mills; and that we are fully convinced that there are different species of fever, just as there are different species of animal poisons, such as small pox, syphilis, &c.

We have now only to remark on the inflammatory nature of typhus and contagion: we will be as brief as possible.

Upon dissection Mr. Mills rests his proofs of the inflammatory nature of fever; yet how are we to dispose of those fatal cases of fever where *post mortem* examination is not able to discover a single trace of disorganization to account for death? We do not see how this fact is to be got over, unless, perhaps, Mr. Mills will discover a new form of inflammation, which we would recommend him to baptize the *invisible*. It would seem to us, as if this gentleman was always successful in his post-obit researches, though it is quite notorious, that in the majority of fever cases examined after death, not the slightest trace of visceral disorganization could be discovered. Often and often have we attended at such examinations, but rarely indeed have they thrown any light on the obscurity in which typhus is involved. This is never the case with mere local inflammations; there is always in such cases something *visible* to account for the result; but that thing, whatever it may be called—typhus—like a thorough-bred assassin, kills, without leaving even a clue to detect the manner in which the fatal deed was accomplished. Of the inflammatory nature of typhus, therefore, there are no satisfactory proofs. The mere coincidence of local inflammation with typhus can never be assumed, even by the warmest advocates of this doctrine, as evidence of its truth. We are proud that our opinion is supported by so respectable

an authority as that of Doctor Stokes, whose opinion upon this subject we shall quote from his last Report of the Cork-street Fever Hospital:—

"The result of dissections," he says, "instituted with a view to the nature of fever, by Dr. Beddoes, and by Mr. Kirby and Dr. M'Carthy, in answer to my own, and subsequently to Dr. Barker's queries, corresponds with the *post-mortem* examinations that I have witnessed; and in as much as altered structure of parts was thus proved not to have taken place in numerous instances, on minute inquiry, it is quite conclusive, that altered structure cannot be deemed an essential character of fever, a conclusion that cannot be affected by any subsequent evidence, however that may go to prove, that typhus fever supervenes on inflammatory complaints, or that it as frequently discloses organic affections which had been previously latent."

So forcibly does the following observation bear on the question at issue, that we cannot but give it a place. It is from the same authority as the preceding:—

"The advocates for the inflammatory nature of typhus, have pursued their anatomical researches with unwearied ardour, through every cavity of the body, from the least to the most complicated viscus, and from the brain and the spinal marrow, to the minute distribution of the nerves. Each in turn has discovered, in some instances, what they sought for, but as frequently has each overturned the opinion of the preceding inquirer respecting the seat of fever. By the same process of inquiry, disorganization, or inflammation, has been disproved as an essential character of typhus." *Verbum non amplius addam.*

"Fever," exclaims Doctor Mills, "is not contagious!" may we ask, is this delusion to be as eternal as it is false? or, how long is it to be the critic's lot to be obliged to expose the fallacy of the arguments advanced in its favour? Take this specimen, quoted before:—"In the room immediately adjoining that of a fever-patient, fever will not appear, if the room be well ventilated." This, to be sure, is a downright Irishism, and as we have a partiality even for the blunders of our countrymen, we will not wantonly turn it into jest. Yet we must be permitted to ask our sagacious author, if typhus be not a contagious disease, why he would raise a window to let its infection escape? If it do not possess the powers of contamination, how is it possible that it could produce effects similar to itself under any circumstances, the most favourable? Play on, therefore, you busy little wind-mills, that revolve in our hospital windows, "your occupation is not yet gone," for though Dr. Mills denies the contagion of fever, yet he prudently recommends the dilution or removal of *miasmata*, through your salutary agency. One would be inclined to think, that Providence throws these occasional "bulls" in the critic's way to relax his contracted muscles into a smile.

Doctor Mills, the author of these "*ægri somnia vana*," is a highly respectable practitioner, no less distinguished by the amenity of his manners than by his successful discharge of professional duties. To his opportunities and qualifications, both for observation and composing, we can bear testimony. It is, therefore, not without feelings of regret that we have been compelled to dissent from the opinions advanced in his book. It is a poor apology to an offended public to say, that the intention of a

writer is good, when his doctrines have a contrary tendency. How is the student in medicine to be recompensed for the injuries he sustains by the perusal of such a work as this? He spends many years over ponderous volumes, gleaning information from every source; he watches by the bedside of disease in order to find his reading confirmed by experience and observation; but the moment he considers his opinions settled, by this compound process of the head and eye, he looks into a work of this kind, and the structure which had cost him so many years of painful labour in raising, is in a moment overturned, and ten chances to one but he turns idle from disgust, or a sceptic from the contradictory doctrines daily promulgated by men of character in the medical profession. Consistently with the principle laid down by us on a former occasion, we cannot, of course, personally censure Mr. Mills for offering his services to the medical public, but we would recommend those gentlemen who have come to a resolution of relieving the *ennui* of their visits through the metropolis, by preparing the materials of a book from their practice, to publish their lucubrations under the significant title of "Daily Meditations of the Coach." By their doing this, we would of course be no longer stimulating the absorbents of the mind, endeavouring to pick up some intellectual nutrition from their barren music. Though there is a great deal of slip-shod pathology and random assertion in this book, it is, notwithstanding, well written and ingeniously conceived; the cases are accurately portrayed, and the prescriptions well adapted to the symptoms stated. We cannot conclude, however, without protesting against the conclusions deducible from the entire work, and against the influence it must exercise over the minds of those who may be so foolish as to become the dupes of its ignorant sophistications.

FOREIGN DEPARTMENT.

ANALYSIS OF FOREIGN MEDICAL JOURNALS.

ARCHIVES GENERALES.—DEC.

An interesting case of a spontaneous cure of an Aneurism of the right subclavian artery.

The history of this case was read at the Royal Academy of Surgeons, by M. Bermardin de Vezelay. M. Laroche, aged 50, a retired officer of the army, whilst attempting to lift a heavy piece of furniture, about twelve months since, perceived a swelling to appear very suddenly just above the right clavicle, which, in a short time, became of the size of a large egg: it was not painful; the skin surrounding it became very much discoloured, and the pulsations in the tumour, which were very strong, were synchronous with those of the heart. The patient applied, of his own accord, twelve leeches to the part, which produced no good effect; but not feeling at all alarmed at what had happened, he paid little attention to the complaint until April 1823, at which time he felt acute pains in his right shoulder. These pains increased until the month of July, and were attended by a feeling of formication and a sensation of coldness extending from the shoulder down the arm, the fore-arm, and hand; and they were at different times so severe as to cause the patient to faint. He then consulted a physician, who advised him to use the vapour bath; he used the vapour bath sixty times without benefit, for he still felt the

sensation of coldness in the affected limb, the motions of which became more and more difficult. A well-informed surgeon saw him about this time and informed him of the nature of his complaint, and advised him to submit to the operation, to which he would not consent. Some time after he was seized with an inflammation of the intestines, which was treated by soothing measures and a spare diet, and during the progress of this latter affection the arm became almost immovable; the pain in it was severe, following the track of the nerves.—M. Laroche was obliged to wear his arm in a sling, and the power of moving the arm, with the feeling of coldness, increased as the pains diminished.

On the 16th of July 1824, the patient consulted M. Cloquet, who having been made acquainted with the symptoms of which the patient complained, proceeded with great care to the examination of the parts. He discovered, just above the right clavicle, a round tumour, just upon the corner of the subclavian artery, firm and about the size of a large nut, having pulsations synchronous with the pulse, without changing the colour of the skin, and not painful on pressure. The result of which examination seemed to satisfy M. Cloquet, that it was an aneurism of the subclavian artery, then undergoing a spontaneous cure. He reports also, that at the present time it is sensibly diminished in size, that it is become firmer, and that the artery is almost obliterated by the coagulum found in the interior of the aneurismal sac. The wasting of the extremities, the feeling of cold of which the patient complained, and the incapability of moving the arm, are the necessary results of the almost complete interruption of the circulation of blood in the limb; and that this is so, is shown by the cessation of the pulse in the brachial, radial, and ulnar arteries. But notwithstanding it is to be hoped that the circulation will be restored in the limb by the enlargement of the collateral arteries given off from the subclavian, before the point of obliteration, anastomosing with the extremities of other vessels given off beyond the obstructed part.

August 26. The pulsation has totally ceased in the tumour, but it can be perceived, although feebly, in the humeral and radial arteries; the movements of the limb cannot be as yet affected, but it is fair to presume, that in proportion as the circulation is restored, the nervous influence will return and the muscular action regain its former activity.

This case appeared to engage the attention of the academy, as being very curious.

1. It presents us with an example of the formation of an aneurism following a sudden and violent effort, and perhaps owing in part to some previous organic change in the artery.

2. The influence which the active treatment, and the spare regimen employed for the cure of intestinal inflammation, might have had on the spontaneous cure of the aneurism.

3. The interruption, almost complete, of the circulation of the blood in the arm producing the numbness and coldness, followed by a return of the circulation by the collateral and anastomosing branches.

4. The obliteration of the artery, shown by the diminution in the bulk of the tumour, by its increase of density and the complete absence of pulsation.

Case of obliteration of the trunk of the Thoracic Duct. By M. ANDRAL, Junior.

In the month of November 1821, when examining a patient who had died of phthisis, I proceeded to dissect the thoracic duct. A few inches above the diaphragm, this canal was filled with a large quantity of lymph, and the canal had altogether lost its transparency for a space nearly corresponding in length to the bodies of the fifth, fourth and third dorsal vertebræ, and afterwards, just opposite the third dorsal vertebra, near to its termination in the vein, it became of its former size and transparency, and appeared to be filled again with chyle. I immediately opened the canal just above the diaphragm, and introduced a fine probe, which penetrated as far as the top of the fifth vertebra; when it reached that point it appeared to have entered a *cul de sac*, and could

not be passed further. All that part of the canal which I before described as appearing white, had not the least cavity, and was in fact converted into a fibrous cord. How then was the lymph, or chyle, to get into the upper part of the canal, which appeared full of it? A very attentive dissection enabled me to discover another considerable lymphatic vessel, a sort of *second thoracic canal*, given off a little below the place where the original canal became obstructed, winding its course obliquely upwards towards the right side, creeping behind the vena azygos, and then again approaching the original trunk, just above the part where the obliteration terminated, and just before it communicated with it, formed a little fold, just as the thoracic duct itself does before it enters the subclavian vein.

It is very common to find the thoracic canal accompanied in its course by branches of a greater or less size, which it gives off at different angles, run separately for a certain space, and again terminate in the original trunk. This was undoubtedly the case here; one of the branches so given off had, subsequently to the obliteration of the canal, acquired a very great size. It is owing to this establishment of a collateral anastomosing circulation that, in a certain number of animals, a ligature has been placed on the thoracic duct with impunity. M. Rayer, in his excellent article on Dropsy, in the *Dictionnaire de Médecine*, has cited, from Sir Astley Cooper, cases of obliteration of the thoracic canal, in which, as in the one I have just described, the circulation of the chyle and lymph was continued by the collateral vessels, which had acquired a proportional developement of size.

Extirpation of a large sarcomatous Tumour from the back.

Maria Richter, aged 46, a woman of a robust habit, and who had never been the subject of any important disease, presented herself to Dr. Edward Gräfe, having a large sarcomatous tumour growing from her back. The account which she gave of its history was this: that about twenty-two years since, she lived in a farm-house as a servant, and whilst there, was one day engaged in loading a waggon with wood, and that she was, by accident, thrown down, and a piece of wood fell upon her back. That since that time she had felt an occasional uneasiness, which was followed by the appearance of a small swelling, which had continued gradually to increase.

On a careful examination of the tumour, it was found to hang, by a narrow neck, from the back, just between and on a line with the lower edges of the scapulæ; the skin, covering it at that part, appeared to be collected into bands, or fræna, and extended some way upon the surface of the swelling, which became gradually broader in its descent, and reached a little below the crista of the ilium; it was of a firm sarcomatous structure, and gave no pain on handling or pressing on it. It measured twelve inches and a half in length, ten and a quarter in breadth, and seven inches and a half in diameter, and was found to weigh, after its removal, about seven pounds.

On the 10th of March, in the presence of several surgeons, I made an incision on the upper part of the tumour, and continued it down the centre for a certain distance, dissected back the skin, and separated it from the muscular fibres to which it was attached.

The edges of the wound were afterwards secured by two sutures and straps of adhesive plaster. The wound rapidly healed, and on the 28th it was so nearly well that it required only a little simple dressing to be applied to it; and in its progress to this fortunate termination, the patient had nothing of any consequence whereof to complain.—*Gräfe and Walther's Journal der Chirurgie.*

MATERIA MEDICA.

Parigline, or the active principle of the Sarsaparilla.

The science of vegetable chemistry has been brought to great perfection by the French physicians, and their discoveries have induced the chemists of other countries to apply themselves to the investigation of the different

natural productions used as remedial agents. The advantages which have already accrued to the profession from the discoveries of the quinina, and the salts of opium, have been exceedingly great; and there is no doubt that every article of the materia medica might have its active properties extracted if a careful analysis were made. Sarsaparilla has long been known to the public as a very useful remedy for various diseases, and it has lately been made the subject of examination by M. Galileo Palotta, an Italian physician, who has discovered in it that which he considers its active principle, to which he has given the name of parigline.*

The process by which it is procured is the following: The sarsaparilla is sliced, or braised with a pestle; and on a given quantity of the root six times its weight of boiling water is to be poured; the vessel in which this is placed is then covered, the infusion allowed to continue for eight hours. The fluid is then strained off, and a similar quantity of boiling water is added to the roots, and allowed to remain the same time as the first. The two infusions, when mixed, are of a deep amber colour, slightly bitter and nauseating. To these mixed infusions, lime-water is added, and the whole stirred together with a wooden spatula; the fluid soon changes its colour, becomes brown, and deposits a pulverulent substance of a greyish colour. This, when collected, is washed with water saturated with carbonic acid, and being allowed to dry in the sun, is afterwards reduced to a very fine powder. It is then put into a mattrass and boiled in alcohol for about two hours, and filtered. The residue is treated with a fresh quantity of alcohol, and the same method is pursued.

These spirituous solutions are mixed, and the whole put into a glass retort, which is then placed in a sand bath, and the alcohol distilled off; just as the liquid in the retort is observed to thicken, it is to be immediately poured off into a pan, and allowed to remain undisturbed. In a short time a white pulverulent matter is precipitated, which attaches itself to the sides of the vessel. The supernatant liquor is to be poured off; the vessel is to be placed in a stove heated to about 25° R. When the new precipitate is sufficiently dry, it is to be collected and preserved in a glass jar. This substance is the parigline.

The liquid which was poured off being evaporated by a gentle heat, furnishes a solid substance, finer, slightly deliquiscent, and of a dark colour, which is the impure parigline; it is combined with a particular colouring matter, but it may be easily purified by a method known to most chemists. The characters of the parigline are the following—it is white, pulverulent, light, unalterable on exposure to atmospheric air, of a bitter austere taste, slightly astringent and nauseating, and of a peculiar odour. Concentrated sulphuric acid decomposes it, but diluted sulphuric acid is neutralized by it, with which it forms a sulphate. All the acids unite with parigline, forming various salts.

The discoverer made five experiments with this medicine on himself, he began by taking two grains, and gradually increased the quantity to thirteen; from the effects it produced, he has drawn the following conclusions. That it has a sedative, but more particularly a diaphoretic property; that it excites an influence principally on the lymphatic system, and that it will therefore answer all the indications of the sarsaparilla. That it may be used with great advantage in cases of chronic rheumatism, and in hepatic affections, as well as in those forms of disease the effects of the syphilitic poison.

If these results should be confirmed by future experiments, patients will be saved the trouble and inconve-

* M. Miquel, the editor of the *Gazette de Santé*, from a number of which publication (Jan. 5) we have taken the substance of this account, has adopted a curious species of etymological reasoning in his attempt to trace the origin of the word *parigline*, he says, "*déduit sans doute du nom latin de la plante*, smilax sarsaparilla." This is like the assertion of a learned bibliographer who said that *alfana* came from *equus*, but admitted, at the same time, that it had changed its character in the descent.—Ed. L.

nience of swallowing many gallons of the wash usually sold for the decoction of sarsaparilla, or the disagreeable mixture made by the solution of the extract.

Discovery of Fossil Bones at Banwell.

An immense assemblage of fossil bones has recently been discovered in Somersetshire, in a cavern of the Limestone Rock at Banwell, near the west extremity of the Mendip Hills, on the property of the Bishop of Bath and Wells. The circumstances which led to this discovery are as follow:—Some miners engaged in sinking a shaft in search of calamine, intersected a steep and narrow fissure, which, after descending 80 feet, opened into a spacious cavern, 150 feet long and about 30 feet wide, and from 20 to 30 feet high. From the difficulty of descending by this fissure, it was lately judged desirable to make an opening in the side of the hill a little below, in a line which might lead directly to the interior of the cave. This gallery had been conducted but a few feet, when the workmen suddenly penetrated another cavern of inferior dimensions to that which they were in search of, and found its floor to be covered to a depth which has not yet been ascertained, with a bed of sand, mud, and fragments of limestone, through which were dispersed an enormous quantity of bones, horns, and teeth. The thickness of this mass has been ascertained, by a shaft sunk into it, to be in one place nearly 40 feet. Many large baskets full of bones have already been extracted, belonging chiefly to the ox and deer tribes; of the latter there are several varieties, including the elk. There are also a few portions of the skeleton of a wolf, and of a gigantic bear. The bones are mostly in a state of preservation, equal to that of common grave bones, although it is clear, from the fact of some of them belonging to the great extinct species of bear, that they are of antediluvian origin.

In the roof of the cave there is a large chimney-like opening, which appears to have communicated formerly with the surface, but which is choked up with fragments of limestone, interspersed with mud and sand, and adhering together imperfectly by a stalagmitic incrustation Through this aperture it is probable the animals fell into the cave, and perished in the period preceding the inundation by which it was filled up. The immense quantity of the bones shows the number of individuals that were lost in this natural pitfall to have been very great. In this manner cattle are now continually lost by falling into similar apertures in the limestone hills of Derbyshire.

There is nothing to induce a belief that it was a den inhabited by hyænas, like the cave of Kirkdale, or by bears, like those in Germany; its leading circumstances are similar to those of the ossiferous cavities in the Limestone Rock at Oreston, near Plymouth.

The cave at Banwell has within these few days been examined by Professor Buckland, and operations have been commenced for the purpose of thoroughly investigating its history and contents. The Bishop has already sent collections of the bones to the museums of Oxford and Cambridge, and intends to provide a similar supply for all the principal public institutions in this country.—*Phil. Mag.*

HOSPITAL REPORTS.

GUY'S HOSPITAL.

Cancer of the Lip.

On the 25th, A. B., in Cornelius ward, was operated upon for cancer of the lower lip; he had been troubled with it for upwards of three years. It first commenced as a small pimple; he scratched it, and a blister then formed; from that time it has been constantly getting more painful, and extending along the lip until it occupied an inch, or rather more, of the surface of it. Mr. KEY commenced by making an incision from the left angle of the mouth, carrying it oblique-

ly downwards and inwards. A similar incision was then made on the opposite side, terminating, however, at the same point as the first, thus forming an acute angle. After the parts were removed, a ligature was applied upon each inferior labial artery, and the edges of the wound brought together by means of three sutures, assisted by a piece of sticking plaster, which, however, extended for some distance on each cheek, to prevent their retractation, and the consequent gaping of the wound.

Mr. KEY also removed the middle finger of the left hand of a woman. In this case, an incision was carried on each side of the metacarpal bone to near its base. The metacarpal bone was then sawn through, and the parts brought into apposition. On examination of the finger, it appeared that the synovial membrane of the second joint had degenerated into a brownish fungous mass, giving rise externally to an extremely painful, fetid, and irritable ulcer, which nothing but the removal of the parts could remedy.

The case of Tic Douloureux, p. 92, has had, since that time, very severe attacks of suffering, to relieve which, he was directed to use a liniment composed of equal parts of tincture of opium and oil of turpentine, this to be kept constantly applied to the part affected. Although this was continued for some days, still it gave no relief; his agonies were most excruciating, so much so, that it was proposed to dissect a portion of the affected nerve; previous, however, to doing this, it was determined to increase the dose of the medicine, and he was therefore directed to take six grains of the sulphate of the quinine every four hours. This had again a most excellent effect, he has been in a state of comparative ease, his face being but slightly affected, and that at much longer intervals.

The accidents brought in this week have not been numerous, consisting of a case of simple fracture of the femur, a case of simple fracture of tibia and fibula, a case of slight injury to the ancle joint, also a case of incised wound of the throat; this, which was intentionally committed, is situated directly above, and upon the trachea, about two inches in length; it has, however, laid open the trachea. The edges of the wound were brought together, and the patient placed in Cornelius ward. There is not at present any symptom of inflammation of the trachea, or any untoward appearance which should prevent his doing well.

ST. THOMAS'S HOSPITAL.

A case of successful employment of the Stomach Syringe.

C. D. brought her child to this hospital, on the 13th, in an extreme degree of alarm and terror. She stated that the child was but *four months old*, that it was of an extremely restless disposition, to relieve which she was in the habit of giving it the syrup of white poppies. On that morning she had been obliged to give it some medicine, but in so doing had made a mistake which had nearly caused the death of her child. She had, it appeared, a quantity of tincture of opium in the house for her own comfort; as well as some syrup for appeasing the infant: both medicines were in phials of similar size and make, and, in administering the syrup as usual, she had in fact given a tea-spoonful of laudanum in mistake; the first thing which excited her attention was the remarkably strong smell of the child's breath, and, on observing this more particularly, she directly perceived her mistake, and hurried off to a neighbouring surgeon; this gentleman gave the child immediately 10 *grains of the sulphate of zinc*, but not with the desired effect. On this account the poor creature was brought to the hospital to have, if possible, the poison removed. On her first admission the child lay in a most torpid state, pulse nearly gone, or very indistinct, eyes fixed, and totally insensible. At the first view it was thought best to exhibit another, but stronger, emetic, it being thought that the Stomach Sy-

ringe could not be employed, this however, fortunately, was not adopted, and it was resolved to endeavour to introduce and use that instrument.

Although the child was so extremely young, yet there was not found much difficulty in the introduction of the pipe; the passage of which along the fauces and œsophagus did not produce any sensation on the patient. The stomach was very speedily relieved of its contents, and by repeated quantities of warm water being thrown into the stomach and pumped out, the whole of the noxious matter was dislodged; immediately after this a small quantity of brandy was exhibited, which had a most decided and beneficial effect. The child immediately afterwards exhibiting strong signs of returning sensibility, it was directed to be kept in constant motion and stimulants given at short intervals, it continued extremely drowsy until evening, but still gradually became less so, and the symptoms of stupefaction slowly disappeared. In the evening it was thought advisable, from the coldness of the surface, to place the child in a warm bath, which had the effect of bringing a comfortable glow on the surface of the body. The patient was still kept in motion, but towards morning was permitted to enjoy a comfortable sleep, out of which it awoke perfectly well. The child continued quite well, and the mother, extremely grateful for such as she called wonderful assistance, took the patient away in the morning.

On the evening of the 17th (to so great a celebrity has the pumping system attained) a woman, who was foolish enough to think herself weary of life, took about half an ounce of laudanum; on the taking the medicine it did not have the usual effect, strange to relate, for instead of dulling the poor creature's senses, they became much quickened, and with them most hearty contrition for her error. In this state she hurried to the hospital to be pumped out. This, however, was not thought requisite; a powerful emetic was administered, which had a very excellent effect, entirely dislodging the noxious contents of the stomach, following it up with a fresh purgative; and the following morning the patient was tolerably well, and content to remain in this wicked world a little longer.

Amputation.

On Friday, C. D. was operated upon by Mr. TRAVERS. He is about forty years of age, and has been long troubled with an extensive disease of the tarsal bones. His health had become much disordered; his constitution extremely irritable; and his nights very disturbed and restless.

The operation commenced by making a circular incision round the limb, about four inches below the knee-joint, the first sweep of the knife merely cutting through the integuments; a second divided those muscles superficially situated; those deeper, in contact with the bone, not being divided till the third incision. Mr. TRAVERS then took a common catlin and passed it through the interossei, and at this period of the operation divided the periosteum covering the anterior surface of the tibia. The bones were then sawn through, the tibia, however, having in the first place been nearly half divided, so that the remaining portion of the tibia and the fibula might be sawn through at the same time. Ligatures were now placed upon the anterior and posterior tibial and fibular arteries; the integuments brought into correct apposition, and retained by strips of adhesive plaster.

The patient has had no untoward symptom since the operation, but, on the contrary, is considerably relieved by losing such extensive morbid parts.

Upon examining the limb, after the operation, the whole substance of the os naviculare was in a state of necrosis, the anterior surface of astralagus rough, and in great part absorbed; the whole of the cartilages and ligaments of the tarsus completely destroyed, and the synovial membrane of the ancle-joint much thickened and diseased.

Mr. GREEN removed a schirrous breast from R. S., in Dorcas' Ward. The steps of the operation were very similar to those described in p. 123,

as performed by Mr. KEY, excepting with this variety, instead of the incision passing obliquely from the sternum downwards and backwards, in this case it passed from the lower part of the axilla towards the ensiform cartilage.

Mr. GREEN also removed a small encysted tumour from the cheek of a young man, situated about half an inch from the fore part of the ear.

Dislocation of the Shoulder forwards.

On the 23d, R. S., a sailor, 35 years of age, presented himself at the surgery, complaining of having hurt his shoulder, about a fortnight since, at sea.

Upon examination, it was found to be a case of dislocation forwards under the pectoral muscle. When the arm was perfectly at rest it did not give him much uneasiness, although when first done it was in great pain; he could bring the elbow close to the side without any great difficulty, but he could not elevate the arm without great pain, neither could he rotate it without inconvenience. The roundness of the shoulder was of course lost, and there was a considerable tumour formed by the head of the os humeri, under the pectoral muscle, and anterior to the glenoid cavity. It was of course thought expedient, by Mr. TYRRELL, instantly to attempt a reduction, which was undertaken without any previous means having been had recourse to, as bleeding, &c.

The patient was stripped of his shirt, and laid upon his back; a bandage was then passed round the arm just above the elbow, to which a towel was attached, and this given to three or four assistants. Another assistant then placed his heel in the axilla, and Mr. TYRRELL himself pressed firmly upon the head of the bone upwards and backwards. The assistants kept up a gradual extension for about five minutes, when the patient became sick and exhausted. The extension, and all the steps of the operation, were, however, continued, and after about eight minutes from the commencement of the operation, the bone suddenly slipped into its situation; the arm was then directed to be kept firmly bound to the side by a broad bandage passed round the body, the patient to be kept perfectly quiet, and to take some aperient, since which he has done extremely well.

A case of simple fracture of the tibia and fibula, attended, however, with great displacement, was brought into this Hospital this week.

Also one of compound fracture of the tibia and fibula, with protrusion of the lower end of the tibia.

In this case R. S. (in George's ward) was, on the evening of the 27th, driving a waggon, which broke down, threw him forcibly forward, and jammed his leg. Upon examination, there was a wound about two inches in length, situated transversely across the inner side of the leg, and through which the tibia protruded to the extent of an inch and a half. The extremity of the bone was of a pointed figure, and overlapped the lower edge of the wound for about an inch. This part Mr. TYRRELL thought it most advisable to remove. He accordingly passed a common spatula under the bone, and then divided the periosteum with a scalpel about an inch from the point of the bone; after which, he sawed off this portion of a triangular figure. The bone was, after this, reduced; the wound dressed, and the foot placed upon the heel. The spirit wash was directed to be kept applied to the parts, and his bowels to be freely purged.

He passed the night very restlessly, and on the following day complained of great pain in the ancle; the swelling and inflammation did not, however, seem to proceed to any great height, and he was directed his applications, &c.

The pain and irritation continued; but on the 3d, they were very much reduced. Still, however, the foot remained much swelled, and he was directed to discontinue the wash, and to apply an emollient poultice; and his bowels, which had not been opened on the day previous, to be relieved with an infusion of senna and salts. Since which time he has continued in a very favourable state.

IMPROVED POISON APPARATUS.

Those Gentlemen who have already provided themselves with the Stop-cock POISON SYRINGE, are informed that G. MAW has just completed a most material Improvement on that Instrument, by which, with its well-known certainty of effect and simplicity, is combined a greater degree of facility and dispatch than is possessed by the most complicated of the Patent Instruments.

Those Gentlemen who are already provided with the original Stop-cock Syringe can have G. Maw's Improvement added at a small additional expence; and those about to purchase are informed, that with this Improvement the Instrument is reduced to less than half its former bulk; and also that the interruption occasioned by the necessity of alternately closing and opening the two Stop Cocks, is entirely obviated, and the operation is performed without the hand being once removed from the handle of the Instrument, either in the operation for Poison, or in administering Enemas.

Instruments to be altered, and Orders to be forwarded to G. Maw, at his Manufactory for Surgical Instruments, Enema Apparatus and Syringes, Pharmacentical Implements, Ford's celebrated Machine-spread Cloth Plasters, &c. &c. 55, Aldermanbury, London.

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Particulars may be known of Mr. Sayer, jun., Apothecaries' Hall.—Letters to be Post paid.

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